

Serial No. 09/842,404
Art Unit: 3762

2

IN THE CLAIMS:

Please cancel claim 64 without prejudice or disclaimer as to the subject matter thereof.

1.-59. (canceled)

60. (currently amended) A method of utilizing a biventricular pacing system to determine the distribution of ventricle to ventricle conduction sequences in a patient having a conductive disorder, the method comprising:

placing sensing leads in both ventricular chambers;

sensing conduction sequences occurring from one ventricular chamber to another ventricular chamber;

determining which ventricular chamber the conduction sequence originated in and which ventricular chamber it propagated to;

recording the determining information in a memory such that the information can be used to identify the relative distribution of conduction sequences;

identifying a conductive disorder in response to the determined relative distribution; and

adjusting a therapy delivered by the pacing system in response to the identified conductive disorder, wherein the conductive disorder comprises a conductive disorder amenable to termination via anti tachycardia pacing (ATP) therapy delivery and wherein the therapy comprises ATP therapy and the adjusting further comprises: initiating the ATP therapy in the ventricular that one of: initiated a recent ventricular depolarization and initiated a majority of ventricular depolarizations over a predetermined time period.

61. (currently amended) The method of claim 60, further comprising:

Serial No. 09/842,404
Art Unit: 3762

3

measuring the temporal dimension from the beginning to the conclusion
timing of each a plurality of prior conductive sequences; and
storing including the measured timing information in the memory by a
range of said temporal dimensions so that the measured information can also be
utilized to select identify relative timing information correlated to the distribution
and adjust the anti tachycardia pacing therapy based on at least one recently
measured temporal dimension.

62. (currently amended) The method of claim 61, wherein each measured
conductive sequence ~~is caused to increments~~ a unit counter representing one of
a plurality of temporal dimensions ~~time ranges indicative of the timing of the~~
~~conductive sequence.~~

63. (Original) The method of claim 61, further comprising:
pacing one ventricular chamber in order to generate a conductive
sequence.

64.-83. (canceled)

84. (currently amended) A biventricular pacing system for determining the
distribution of conduction sequences from a first ventricle (V1) to a second
ventricle (V2) ~~conduction sequences~~ in a patient having a conductive disorder,
comprising:

sensing means located in both ventricular chambers (V1,V2) for sensing
conduction sequences occurring from one ventricular chamber to
another ventricular chamber;

means for determining which ventricular chamber the conduction
sequence originated in and which ventricular chamber it
propagated to; and

Serial No. 09/842,404
Art Unit: 3762

4

means for recording the determined information in a memory such that the information can be used to identify the relative distribution of conduction sequences; and

means for detecting an arrhythmia susceptible to termination via anti tachycardia pacing (ATP) therapy and adjusting the ATP therapy based at least in part upon the ventricular chamber the arrhythmia originated in.

85. (currently amended) The biventricular pacing system of claim 84, further comprising:

means for measuring the timing of each conductive sequence and including the measured timing information in the memory ~~so that the information can also be utilized~~ to identify relative timing information correlated to the distribution of the conduction sequences.

86. (currently amended) The biventricular pacing system of claim 85, wherein each measured conductive sequence ~~is caused to~~ increments a counter representing one of a plurality of discrete time ranges indicative of the timing of the conductive sequence.

87. (Original) The biventricular pacing system of claim 85, further comprising:
means for pacing one ventricular chamber in order to generate a conductive sequence.

88. (Original) The biventricular pacing system of claim 87, wherein each measured conductive sequence is caused to increment a counter representing one of a plurality of time ranges indicative of the timing of the paced conductive sequence.

Serial No. 09/842,404
Art Unit: 3762

5

89. (currently amended) The biventricular pacing system of claim 84, further comprising:

means for delivering anti tachycardia pacing in response to the
determined information, wherein the determined information includes arrhythmia
propagation information.

90.-124. (canceled)

125. (new) A biventricular pacing system according to claim 89, wherein said arrhythmia propagation information includes at least one of the following characteristics: an arrhythmia type, an arrhythmia-propagation interventricular direction code (e.g., "V1-V2" or "V2-V1").

126. (new) A biventricular pacing system according to claim 125, wherein said arrhythmia type includes a ventricular fibrillation code.

127. (new) A biventricular pacing system according to claim 125, wherein said arrhythmia type includes a ventricular tachycardia code

128. (new) A biventricular pacing system according to claim 125, wherein said arrhythmia type includes a pre-ventricular contraction (PVC) code.

129. (new) A biventricular pacing system according to claim 125, wherein said arrhythmia type includes an ectopic foci code.

130. (new) A biventricular pacing system according to claim 125, wherein the arrhythmia-propagation interventricular direction code is used to determine in which ventricle the anti tachycardia pacing is initiated.

Serial No. 09/842,404
Art Unit: 3762

6

131. (new) A biventricular pacing system according to claim 89, wherein arrhythmia propagation interventricular direction (e.g., "V1-V2" or "V2-V1") further comprises a histogram of at least one prior arrhythmia episode.

132. (new) A biventricular pacing system according to claim 89, wherein said anti tachycardia pacing (ATP) comprises one of a first delivery of ATP and a second delivery of ATP.